## Sudan University Of Science & Technology College Of Graduate Studies

## Conventional X-Ray & Magnetic Resonance Imaging (MRI) In Trauma Of Spine (Comparative Study)

A thesis submitted for partial fulfillment of M.Sc degree in Diagnostic Radiologic Technology

**Presented by**\

Altohami Bannaga Ali

**Supervised by**\
Ustaza/ Doha Abdo

September 2004

## **List of Contents**

Title	page
Dedication	I
Acknowledgement	II
List of Abbreviations	III
List of figures & tables	IV
Abstract (Arabic)	VI
Abstract (English)	
VII	
Chapter one: Introduction	
1-1 Introduction	1
11 Objectives of the study	
12 Important & problem of the study	2
13 Hypotheses of the study	2
14 Period & place of the study	2 2
15 Methodology	2
16 Contents of the study	3
Chapter two: Literature review	
2-1 Previous studies	4
2-2 Anatomy & physiology of the spine	5
2-2-1 The vertebral column	5
2-2-2 Spinal cord and spinal nerve	11
2-2-3 Cerebrospinal fluid	13
2-2-4 Blood supply of the spine	13
2-3 Spine pathology	15
2-3-1 Some of congenital anomalies of the spine	16
2-3-2 Infective spine disorders	16
2-3-3 Neoplasm of the spine	16
2-3-4 Spine injury	17

2-4 Vertebral column radiography				
2-4-1 Principle of x-ray				
2-4-2 Cervical spine x-ray imaging	19			
2-4-3 Thoracic spine x-ray imaging	27			
2-4-4 Lumbar & lumbosacral spine x-ray	31			
2-4-5 Sacrum & coccyx spine x-ray imaging	34			
2-5 Spine MRI protocols	37			
2-5-1 Principle of MRI	37			
2-5-2 Cervical spine MRI protocols	39			
2-5-3 Thoracic spine MRI protocols	40			
2-5-4 Lumbar spine MRI protocols	41			
2-5-5 Whole spine MRI protocols	42			
Chapter three: Methodology				
Methodology	43			
Chapter four: Results				
Results	46			
Chapter five: Discussion, Conclusion, Recommendatio	ns &			
Suggested study				
5-1 Discussion	61			
5-2 Conclusion	63			
5-3 Recommendations	64			
5-4 Suggested studies	65			
References	66			
Appendices				